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10/682,542	10/09/2003	Susie J. Wee	200315123-1	8755

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HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER	
BAUTISTA, XIOMARA L	

ART UNIT	PAPER NUMBER
2179	

NOTIFICATION DATE	DELIVERY MODE
09/05/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM
mkraft@hp.com
ipa.mail@hp.com

Office Action Summary	Application No.	Applicant(s)	
	10/682,542	WEE ET AL.	
	Examiner	Art Unit	
	X. L. Bautista	2179	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 June 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 02 June 2008 have been fully considered but they are not persuasive.

Applicant argues, "...movement detection as taught by *Uchihashi* would not benefit the system of *Aoki* because the system of Aoki detects conversations by analyzing audio data...the context of the teachings of *Aoki* detecting movement as taught by *Uchihashi* is irrelevant." (page 10, last paragraph).

In response, Aoki provides motivation for adding Uchihashi's teaching in its invention. Aoki discloses that "one skilled in the art will understand that the invention can be augmented with additional known types of inferential analysis that use input data other than those directly affected by conversation...For example...context-awareness systems combine many kinds of physical sensor data and computer application data to make assessment of user activity. A context-aware system that is capable of tracking user's physical locations within a building can compute which users are co-present in a room; such a system might assess co-present users' vocalizations as having a high probability of being directed at each other as opposed to being directed at remote users...These other types of inferential analysis can be integrated with the present invention in a variety of ways. For example, they can be loosely integrated in a way that provides parameters that influence the operation of the 'floor configuration' thread...for manual user inputs...they can be tightly integrated, perhaps being incorporated directly

into a state machine that controls the operation of the present invention...The invention can be applied to any shared environment having independently controlled output." (pages 13-14, par. 0168-0169). Aoki also explains that its invention has a plurality of advantages, such as providing a unified conceptual and implementation framework for multi-party conversationally-responsive systems that can be applied to systems using different communication delivery media, such as audio, video and text (page 14, par. 0178; read also: pages 5-6, par. 0071).

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).

Correction of the following is required: Applicant claims a "computer-readable storage media" in claims 34-45, which is not defined in the specification.

Drawings/Specification

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: the description of **figure 3** in the specification includes an element 13, which is not included in the drawing. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures

appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Applicant is required to amend the specification as needed to include any drawing corrections.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. **Claims 1-8, 14-29, 32-41, 44 and 45** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Aoki et al** (US 2004/0172255 A1) and **Uchihashi et al** (US 2004/0201710 A1).

Claims 1 and 22:

Aoki discloses *a system for communication* (abstract; p. 1, par. 0011). Aoki discloses *a first set of sensing and rendering components arranged to cover physical movements of multiple individuals present in a first environment*. Aoki teaches a plurality of sensing components, such as microphones (p. 3, par. 0047) and vocalization detectors (p. 3, par. 0047); and rendering components, such as visual displays (p. 12, par. 0157; fig. 1), headphones (p. 14, par. 0170, lines 1-11), and audio speakers (p. 3, par. 0046), to cover physical activities and/or presence (tracking users' physical locations: p. 13, par. 0168, lines 8-10) of the individuals present in the environment. Aoki explains that the sensing and rendering components are used for detecting conversational characteristics (p. 4-5, par. 0061), such as user's physiological reactions (p. 9, par. 0114), user's vocalizations (p. 9, par. 0115), user's physical activity (p. 13, par. 0168), gestures such as mouse-clicks, button pushes, or voice commands directed at a computer (p. 14, par. 0174) of multiple individuals present in a (first environment) conversational floor (p. 1, par. 0012, 0013). Aoki teaches a context-awareness system

that may be combined with many kinds of physical sensor data and computer application data to make assessments of user activity; the system being capable of tracking user's physical locations within a building and compute which users are co-present in a room (motion or presence detection), (p. 13-14, par. 0168).

Aoki discloses *a second set of sensing and rendering components arranged to cover physical movements of multiple individuals in a second environment.* Aoki teaches a system that enables groups and subgroups of people to communicate and carry on separate conversations within the context of a meeting (p. 1-2, par. 0011-0014). Aoki explains that the invention can include additional types of inferential analysis that use input data other than those directly affected by conversation. The system may combine many kinds of physical sensor data and computer application data (p. 14, par. 0170) to make assessment of user activity for users who are co-present in a room and/or users who are not present (first and second environments) in the room (p. 13, par. 0168-0169).

Aoki discloses *interest thread detector that uses the first and second set of sensing and rendering components to detect multiple communication interactions each involving a respective subset of the individuals present in the first and second environments and that maintains an interest thread for each communication interaction.* Aoki teaches detecting multiple communication interactions involving subgroups of individuals present in the same or in different environments (p. 13-14, par. 0168-0169). Aoki teaches *maintaining an interest thread for each communication interaction* (p. 14,

par. 0170). Aoki explains that the invention has a floor analysis module used to analyze data for conversational characteristics and that its results are used to determine users' activities, specify a set of mixing parameters, and communicate the mixing parameters over a floor control path (p. 4, par. 0056, 0061; p. 5, par. 0061-0062; p. 6, par. 0072, 0073, 0076).

Aoki discloses *communication provider that captures a set of media data from the sensing components and that combines the captured media data in response to the respective activities of each subset of the individuals and that communicates the combined media data to the rendering components*. Aoki teaches a communication system and a method for receiving a plurality of communications from a plurality of communication sources; for mixing the plurality of communication for a plurality of outputs associated with the plurality of communication sources (p. 1, par. 0011-0013; p. 2, par. 0014-0015). Aoki teaches combining the captured media data and communicating the combined media data to the rendering components (p. 14, par. 0173-0178). Aoki teaches a plurality of modules and a "conversational floor configuration thread" for analyzing conversational characteristics of the plurality of individuals (p. 4, par. 0056-0058, 0061, 0062), and using the results of the analysis to control the floor controls and/or set of mixing parameters. Aoki explains that the floor configuration thread is invoked by the "invoke floor configuration thread" and that this thread is responsible for receiving results of the individual analysis modules, determining and selecting the configuration of audio sources from these results (p. 6,

par. 0076).

Aoki teaches analyzing data for conversational characteristics that can be determined from analysis of audio information or from physiological responses to the conversation, such as responses measured by a biometric device and/or information from an eye-tracker device (par. 0114) but Aoki does not specifically teach detecting physical movement of the individuals. However, **Uchihashi** discloses a system and method for computer assisted recording or capture of meetings or presentation events (abstract; p. 1, par. 0008). Uchihashi teaches a system having multiple cameras and sensors (p. 1, par. 0017, 0019) for detecting physical motion of humans present in a conference (p. 2, par. 0022-0024, 0029; p. 4, par. 0046-0047). Uchihashi teaches displaying "candidate activity events", which are events of potential interest (interest thread) in the meeting (p. 5, par. 0051). Therefore, it would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify Aoki's method of determining and analyzing the activities of multiple participants in a meeting to include Uchihashi's teaching of using sensors to capture physical movements of the participants because as Uchihashi says, the system follows the flow of the individuals' and/or the presentation's activities within the conference or meeting, and also because delays caused by camera switching latency is reduced or eliminated when the system captures only those activities that are of real interest to the meeting.

Aoki/Uchihashi teaches combining captured media data in response to captured data in response to respective user's activities, and indicated by the user's shared

communication (page 14, par. 0169), conversational characteristics (page 14, par. 0170), user's gestures (page 14, par. 0174), and other captured data such as user's physical activities (page 13, par. 0168).

Claims 2, 23 and 35:

See claim 1. Aoki teaches selecting respective subsets of the first and second set of sensing and rendering components for use for each communication interaction (interest thread) or user's activities. Aoki explains that a meeting can have subgroups of people who carry on separate conversations, and that each subgroup can maintain awareness of the primary group conversation (p. 2, par. 0038). Aoki teaches a conversational floor wherein users are enabled to have side conversations in the conversational environment (p. 6-7, par. 0081-0082; p. 9-10, par. 0120).

Claims 3, 24 and 36:

Aoki teaches activities including speech levels of the individuals (user's vocalization) involved in the communication interaction (p. 3, par. 0035; p. 9, par. 0115, 0118).

Claims 4, 25 and 37:

Uchihashi teaches activities including gestures by the individuals involved in the communication interaction (p. 3, par. 0035).

Claims 5, 18, 20, 26 and 38:

Uchihashi teaches activities including movements by the individual involved in a respective interest thread (p. 2, par. 0022-0024, 0029; p. 4, par. 0046-0047).

Claims 6, 27 and 39:

Uchihashi teaches capturing and storing location information about identified objects and individuals within the conference room (p. 3, par. 0031; p. 4, par. 0043).

Claims 7, 28 and 40:

Aoki teaches refining captured data (p. 3, par. 0048). Uchihashi teaches processing the raw sensor information (p. 2, par. 0021; p. 4, par. 0045; p. 5, par. 0051).

Claims 8, 29 and 41:

Aoki/Uchihashi teaches storing captured data (Aoki: par. 0047; Uchihashi: par. 0022, 0031, 0033).

Claims 14-15, 32-33 and 44-45:

See claim 1. Aoki teaches capturing communication interactions (interest threads) of conversational activities of different groups of individuals (main conversation and side conversation) creating in this way interest area for separate detected activities (p. 6-7, par. 0081; p. 9-10, par. 0120, 0130; p. 13, par. 0168).

Claims 16 and 17:

See claim 1. Aoki teaches communication interactions involving two or more individuals (p. 1, par. 0011) in two or more environments (p. 13-14, par. 0168-0169).

Claim 19:

Aoki/Uchihashi teaches movement pertaining to rendering devices (Uchihashi: p. 2, par. 0020; p. 3, par. 0035).

Claim 21:

See claim 1. Aoki teaches participants may be in the same room or at a remote location (p. 13-14, par. 0168, 0170).

Claim 34:

See claim 1. Aoki discloses a computer-readable media that containing code (p. 4, par. 0050, lines 1-4).

7. **Claims 9-13, 30, 31, 42 and 43** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Aoki/Uchihashi** and **Rui et al** (US 2002/0191071 A1).

Claims 9-13, 30, 31, 42 and 43:

Aoki/Uchihashi teaches tracking interactions pertaining to an individual or an object (p. 2, par. 0020, 0031) but it does not teach communication interactions pertaining to an artifact that changes over time. However, **Rui** discloses a method for recording and broadcasting meetings (abstract; p. 1, par. 0009) wherein communication interactions that pertain to an artifact, such as a whiteboard, are captured and stored (p. 1-2, par. 0010). Thus, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Aoki/Uchihashi's method of capturing communication interactions to include Rui's teaching of capturing communication interactions that pertain to devices because the participants are enabled to share a workspace, such as a whiteboard, and capture annotations that can be viewed by all participants in the conference room and then later reviewed by those

individuals who were or were not present in the meeting.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. **Valliath et al** (US 7,106,358 B2) discloses a system and method for telepresence communication between two or more participants at multiple locations (abstract; col. 2, lines 58-67; col. 3, lines 1-15). Valliath discloses using multiple sensors for capturing, collecting and processing movement of participants (col. 3, lines 16-67; col. 4, lines 1-37). **Dietz** (US 6,307,952 B1) discloses a system and method for detecting user's interactions. Dietz teaches using multiple motion sensors for detecting participants' movement (col. 3, lines 1-64; col. 4, lines 49-58). **Waters et al** (US 6,256,046 B1) discloses a user interface that senses humans visually using movement and color to detect changes in the environment (abstract; col. 2, lines 25-39, 60-65). Waters teaches using multiple cameras for capturing people's movement (col. 3, lines 3-26) and speakers and display screens for rendering detected activity (col. 3, lines 27-63).

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to X. L. Bautista whose telephone number is (571) 272-4132. The examiner can normally be reached on Monday-Thursday 8:00AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on (571) 272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/X. L. Bautista/
Primary Examiner, Art Unit 2179

August 29, 2008